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FIG. 1A

SEQ ID NO: 1	MtubZ94752	<u>mlrlvvqalllvlafaggyavaacktvltltvdgtamrvttmkrsrvidive</u>	50
	MtubZ94752	engfsvddrddlypaagvqvhdadtivlrrsrplqisldghdkgvwtta	100
	MtubZ94752	stvdealaqlamtdtapaaasrasrvplsgmalpvvsaktvqlndgglvr	150
SEQ ID NO: 2	MtubZ94752	tvhlpapnvagllsaagvp11qsdhvvpaatapivegmqivtrnrkkr	200
	MtubMTV008	----- <u>mpvqwlwrartakgttlknarttlaaaiaqt</u>	32
SEQ ID NO: 3	Mlep104666	----- <u>mseyrkl</u>	8
SEQ ID NO: 4	MtubMTV043	----- <u>msgrhrkpt</u>	9
	MtubZ94752	terlplppnarrvedpemmsrevvedpgvpgtqdvtfavaevngvetgr	250
SEQ ID NO: 36	MlutZ96935	----- <u>mtlfttsat</u>	9
SEQ ID NO: 5	MlepL01095	----- <u>mpqemldvrklc</u>	12
SEQ ID NO: 6	MtubU38939	----- <u>mhplpadhgrsrcnrhplspisplsignisatsqdmssmt</u>	38
SEQ ID NO: 7	MtubZ81368	----- <u>mtpgllttagaqrprdrca</u>	19
	MtubMTV008	<u>lvttspagianaddagldpnaaagpdavgfdpnlppapdaapvdtppape</u>	82
SEQ ID NO: 8	Scoeli6C12\$	--- <u>irtaavtlvaatalgatgeavaapsaplrtDWDAIAACESSGNWQAN</u>	25
	Mlep104666	<u>ttssiiivakitftgamldqgsialagqaspatdsEWDQVARCESGGNWSIN</u>	58
	MtubMTV043	<u>tsnvsvakiaftgavlgqgggiamaaqataatdgEWDQVARCESGGNWSIN</u>	59
	MtubZ94752	<u>lpvanvvtpaheavrvrgtkpgtevppvidgsIWDIAIGCEAGGNWAIN</u>	300
	MlutZ96935	<u>rsrratasivagmtlagaaavqfsapagaatvdTWDRLAECESNGTWDIN</u>	59
	MlepL01095	<u>klfvksavvsqivtasmlststgmanavprePNWDAVAQCESGRNWRAN</u>	62
	MtubU38939	<u>riakpliksamaaglvtasmslstavahagpsPNWDAVAQCESGGNWAAN</u>	88
	MtubZ81368	<u>rivctvfietavvatmfvallqlstisskaddIDWDAIAQCESGGNWAAN</u>	69
	MtubMTV008	<u>dagfdpnlpplapdfllspaaeeappvpvaysVNWDAIAQCESGGNWSIN</u>	132
		.** *	
	Scoeli6C12\$	TGNGYYGGLQFARSSWIAAGGLKYAPRADLATRGEQIAVAERLARLQGMS	75
	Mlep104666	TGNGYLGGLOFSQGTWASHGGGEYAPSAQLATREQQIAVAERVLATQSGG	108
	MtubMTV043	TGNGYLGGLOFTQSTWAAHGGGEFAPSAQLASREQQIAVGERVLATQGRG	109
	MtubZ94752	TGNGYYGGVQFDQGTWEANGGLRYAPRADLATREEQIAVAEVTRLRQGWG	350
	MlutZ96935	TGNGFYGGVQFTLSSWQAVGGEG---YPHQASKAEQIKRAEILQDLQGWG	106
	MlepL01095	TGNGFYGGLOFKPTIWARYGGVG---NPAGASREQQITVANRVLADQGLD	109
	MtubU38939	TGNGKYGGLOFKPATWAAFGGVG---NPAAASREQQIAVANRVLAEQGLD	135
	MtubZ81368	TGNGLYGGLOISQATWDSNGGVG---SPAAASPOQQIEVADNIMKTQPGG	116
	MtubMTV008	TGNGYYGGLQFTAGTWRANGGSG---SAANASREEQIRVAENVLRSQGIR	179
		****.***** * . * *	
	Scoeli6C12\$	AW-----	78
	Mlep104666	AWPACGHGLSGPSLQEVLPAG---MGAPw----INGAPAPLAPPPPAEPAP	152
	MtubMTV043	AWPVCGRGLSNATPREVLPA SaamDAPldaaaVNGEPAPLA-PPPADPAP	158
	MtubZ94752	AWPVCAaragar-----	362
	MlutZ96935	AWPLCSQKLgltqadadagdvdateaapvavertatvqrqsaadeaaaeq	156
	MlepL01095	AWPKCGAASDLPLITLWSHPAQGVKQIINDIIImgdttlaaialngl----	155
	MtubU38939	AWPTCGAASGLPIALWSKPAQGIKQIINEIIwagiqasipr-----	176
	MtubZ81368	AWPKCSscsqgdaplgslthiltflaaetggcsgsrdd-----	154
	MtubMTV008	AWPVCGrng-----	188
		*** *	

FIG. 1A (CONT.)

Mlep104666	pqqpadnf-----PPTPGDVPSPLarp-----	174
MtubMTV043	pvelaandlpaplggeplpaapadpappadlaPPAPADVAPPvelavndlp	208
MlutZ96935	aaaaeqavvaeaetivvksgdslwtlaneyeveggwtalyeankgavsda	206
MtubMTV043	aplggeplpaapadpappadlappapadlappapadlappapadlappvel	258
MlutZ96935	aviyvgqelvpqa-----	220
MtubMTV043	avndlpaplggeplpaapaelappadlapasadlappapadlappapaela	308
MtubMTV043	ppapadlappaavneqtapgdqpatapggpvglatdlelpepdppadap	358
MtubMTV043	ppgdvteapaetpqvsniaytkklwqairaqdvcgndaldslagpyvig-	407

Fig. 1B

SEQ ID NO:	RPF	TIYVKS	GD	SL	WT	LANE	YE	VE	GG	WT	AL	YE	ANK	GA	VS	-----	DA	VI	YV	GQ	EL	VL	PP	QA		
13	g149657	TIYVKS	GD	SL	WT	LANE	YE	VE	GG	WT	AL	YE	ANK	GA	VS	-----	DA	VI	YV	GQ <td>EL</td> <td>VL</td> <td>PP</td> <td>QA</td>	EL	VL	PP	QA		
14	g2226145	TIYVKS	GD	SL	WK	LS	RQ	YD	IT	--	IS	AL	KS	EN	KL	-----	KS	TV	LY	VG	QS	SL	KV	PP	ES	
15	g2226145	TIYVKS	GD	SL	WK	LA	QT	YN	TS	--	VA	AL	TS	AN	IL	-----	ST	TV	LS	IG	QT	LT	IP	--		
16	g2226145	TYTVKS	GD	SL	WV	IA	QK	FN	VT	--	AQ	IR	EK	NN	-----	KT	DV	LQ	VG	QK	LV	-----				
17	g2226145	KYTVKS	GD	SL	WK	IA	NN	IN	LT	--	VQ	IR	NI	NN	-----	KS	DV	LY	VG	QV	LV	KL	-----			
18	g266725	TYTVKS	GD	TI	WAL	SS	K	YG	TS	--	VQ	NI	MS	WN	NN	-----	SS	SS	IY	VG	QV	LV	AV	KQ		
19	g80581	THAVKS	GD	TI	WAL	SV	K	YG	VS	--	VQ	DI	MS	WN	NN	-----	SS	SS	IY	VG	QK	LA	IK	Q		
20	g2707292	SVVKKS	GD	TL	WAL	SV	K	YK	TS	--	IA	Q	L	KS	WN	NH	-----	SS	DT	IY	IG	QN	LI	VS	QS	
21	g755216	TYTVKS	GD	TL	WG	IS	QR	YG	IS	--	VA	Q	I	QS	AN	NL	-----	KS	TI	IY	IG	QK	LL	---		
22	g1722873	TYTVKK	GD	TL	WD	IA	GR	FY	GN	ST	QW	RK	IWN	ANK	TAM	IK	RS	KRN	IR	QPG	HW	IF	FP	GQ	KL	IP
23	g1176755	TYTVKK	GD	TL	WD	LAG	KFY	GD	ST	KW	RK	IWN	VKK	KAM	IK	RS	KRN	IR	QPG	HW	IF	FP	GQ	KL	IP	

FIG. 1C

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SEQ ID NO: 4 1 msgrhrkpttsnvsvakiaftgavlrggggiamaaqataatdgewdqvarcesgggnwsintgngylgg
 lqftqstwaahgggefpasqglasreqqiavgervlatqgrgawpvcgrglstnatprevlpasaamd
 apldaaavngepaplapppadv 156

157 appvelaandlpaplgelplaapadpappadlappapadv 196
 197 appvelavndlpaplgelplaapadpappadlappapadlappapadl 252
 253 appvelavndlpaplgelplaapaelappadlap-asadlappapadlappapaelappapadlappa
 320 -----avne 323

324 qtapgdqpatapggpvglatdlepdpqpapppgdvteapaetpqvsniaytkklwqaira
 389 qdvvcgndaldslagpyvig* 407

Motif	sequence
A	157 appvelaandl 167 SEQ ID NO: 25
B'	168 paplgelplaapad 181 SEQ ID NO: 28
C	182 pappadl 188 SEQ ID NO: 29
D	189 appapadv 196 SEQ ID NO: 31
A	197 appvelavndl 207 SEQ ID NO: 26
B'	208 paplgelplaapad 221 SEQ ID NO: 28
C	222 pappadl 228 SEQ ID NO: 29
D	229 appapadl 236 SEQ ID NO: 30
D	237 appapadl 244 SEQ ID NO: 30
D	245 appapadl 252 SEQ ID NO: 30
A	253 appvelavndl 263 SEQ ID NO: 26
B	264 paplgelplaapael 278 SEQ ID NO: 27
C	279 appadl 284 SEQ ID NO: 55
D*	285 apasadl 291 SEQ ID NO: 56
D	292 appapadl 299 SEQ ID NO: 30
D	300 appapael 307 SEQ ID NO: 57
D	308 appapadl 315 SEQ ID NO: 30
D'	316 appa 319 SEQ ID NO: 58
'A'	320 avne 323 SEQ ID NO: 59

A = appvela[av]ndl

B = paplgelplaapa[de]l

C = pappadl

D = appapa[de][lv]

Fig. 1D

FIG. 1E

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SEQ ID NO: 35 1 accaaggagaaggacgaccccggtgtgcctcggccgcccgatcagcgaggactcgccatgg 60
 61 acaccatgactctcttcaccacttccgccacccgctcccgcggtgccaccgcctcgatcg 120
 M T L F T T S A T R S R R A T A S I V
 SEQ ID NO: 37 g
 121 tcgcgggcatgaccctcgccggcgccgcccgtgggcttctccgccccggcccaggccg 180
 A G M T L A G A A A V G F S A P A Q A A
 SEQ ID NO: 38 A
 oligo A1>>>
 csacsgtsgacacstgggaccgscstsgcsgag
 181 ccaccgtggacacctgggaccgcctcgccgagtgcgagtgccaacggcacctgggacatca 240
 T V D T W D R L A E C E S N G T W D I N
 T V D T W D R L A E E x S N G T x D
 <<< oligo G2 SEQ ID NO: 40 .. oligo G1>>>
 gttgccgaagatgccgcc agttcaccctgtcctcctg
 SEQ ID NO: 39 241 acaccggcaacggcttctacggcgccgtgcagttcaccctgtcctcctggcaggccgctcg 300
 T G N G F Y G G V Q F T L S S W Q A V G
 SEQ ID NO: 42 G
 <<< oligo A2
 SEQ ID NO: 41 ccictycciatrggigtrgtycg
 301 gcggcgaaggctacccgcaccaggcctcgaaggccgagcagatcaagcgcgccgagatcc 360
 G E G Y P H Q A S K A E Q I K R A E I L
 G E G Y P H Q A S K
 361 tccaggacctgcagggctggggcgcggtggccgctgtgctcgcagaagctgggcctgaccc 420
 Q D L Q G W G A W P L C S Q K L G L T Q
 421 aggctgacgcggacgcccgtgacgtggacgccaccgaggccgccccggtcgccgtggagc 480
 A D A D A G D V D A T E A A P V A V E R
 481 gcacggccaccgtgcagcgccagtcgcccgaggaggtgcccgagcaggccgctg 540
 T A T V Q R Q S A A D E A A A E Q A A A
 541 ccgcgagcagggcgtcgtcgccgaggccgagaccatcgtcgtcaagtccggtgactccc 600
 A E Q A V V A E A E T I V V K S G D S L
 601 tctggacgctcgccaacgagtacgaggtggaggggtggctggaccgccctctacgaggcca 660
 W T L A N E Y E V E G G W T A L Y E A N
 661 acaaggcgccgtctccgacgcccgtgatctacgtcgccaggagctcgtcctgcccgc 720
 K G A V S D A A V I Y V G Q E L V L P Q
 721 aggcctgagacgcctgaccggccccccggaccggtacc 758
 A *

SEQ ID NO: 43 1 ATVDTWDRLE ECESNGTWDI NTGNIFYGGV QFTLSSWQAV GGEGYPHQAS KAEQIKRAEI 60
 61 LQDLQGWGAW PLCSQKLGLT QADADAGDVD ATEAAPVAVE RTATVQRQSA ADEAAAEQAA 120
 121 AAEQAVVAEA ETIVVKSGDS LWTLANEYEV EGGWTALYEA NKGAVSDAAV IYVQELVLP QA 182

FIG. 2A

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SEQ ID NO: 44 ggatccgcaccgccgcggttaaccctggtcgccgcgaccgcactcggggcgaccggcgaag 60
SEQ ID NO: 45 I R T A A V T L V A A T A L G A T G E A
cggtggccgcgccctcggcgcccctgcgcaccgactgggacgccatcgccgcgtgcgagt 120
V A A P S A P L R T D W D A I A A C E S
ccagcggcaactggcaggcgaacaccggcaacggctactacggcggcctgcagttcgcac 180
S G N W Q A N T G N G Y Y G G L Q F A R
ggtccagctggatcgccgccggcgccctcaagtaacgccccgcgcgcggacctcgccaccc 240
S S W I A A G G L K Y A P R A D L A T R
gcggcgagcagatcgccgtggcggaacgcctcgcccgtctgcaggggatgtccgcctgg 299
G E Q I A V A E R L A R L Q G M S A W

FIG. 2B

09/445289-054100

FIG. 3

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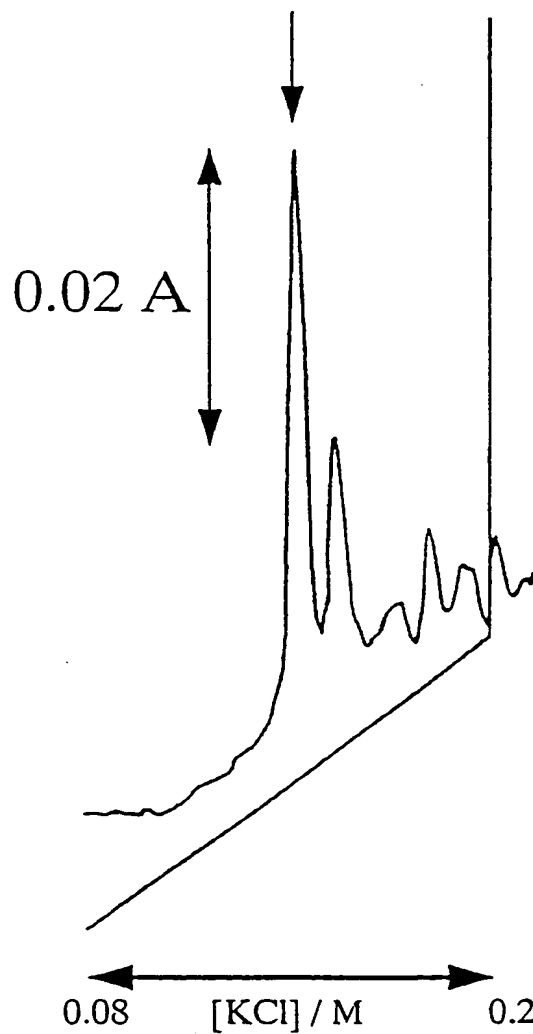
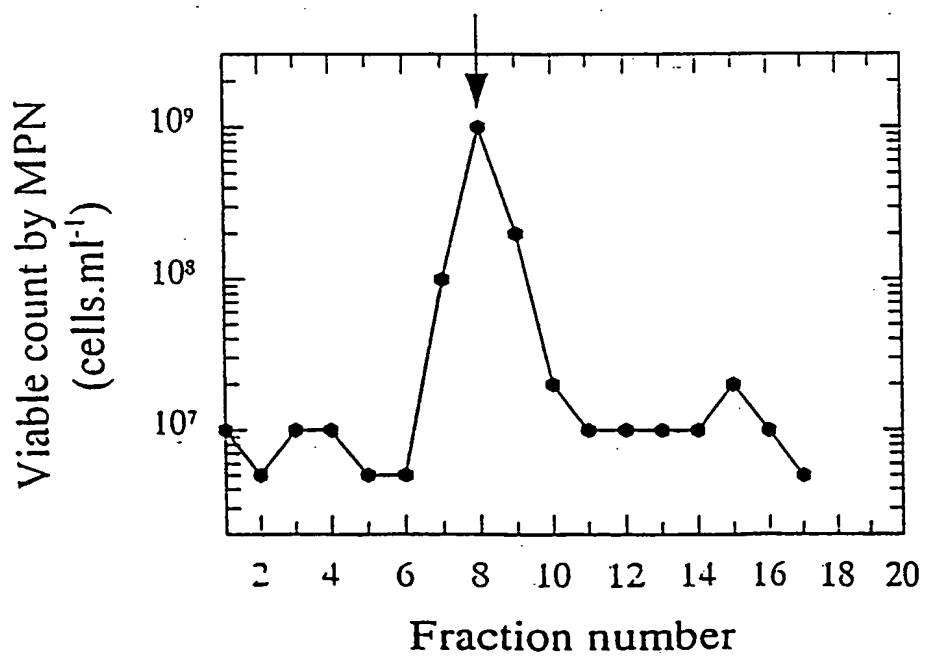
A**B**

FIG. 3

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C.

 M_r (kDal)94
66

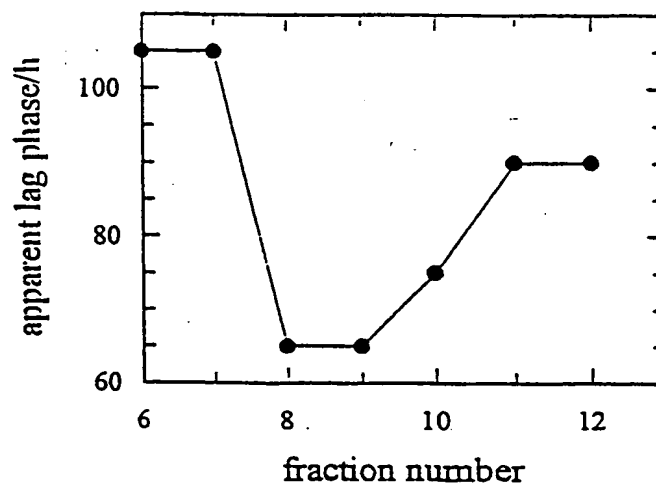
20.1

14.4

1

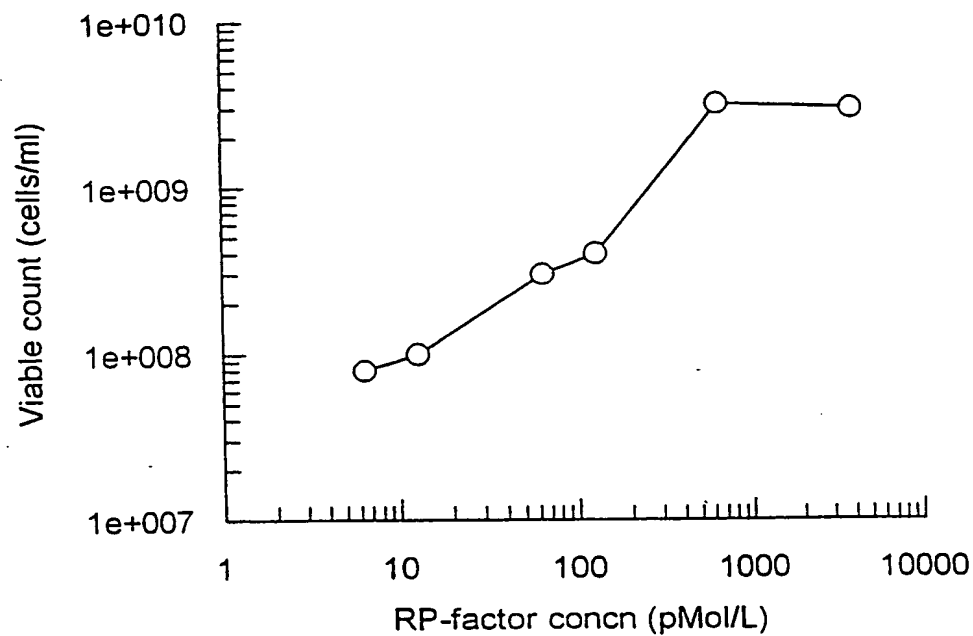
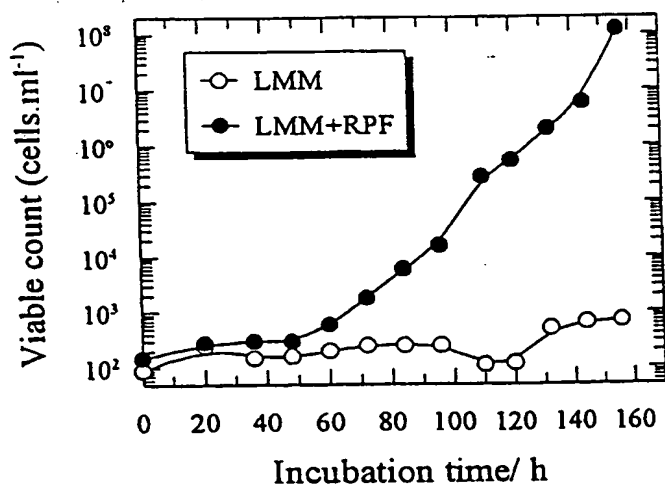
2

3



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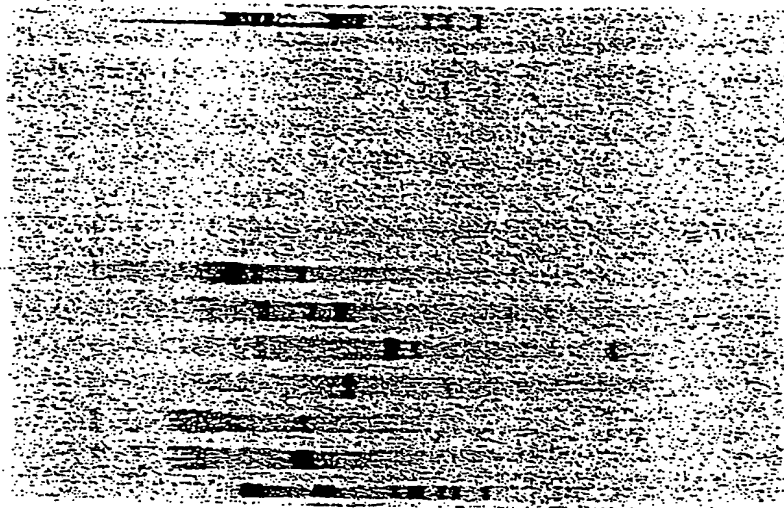
FIG. 4

A**B**

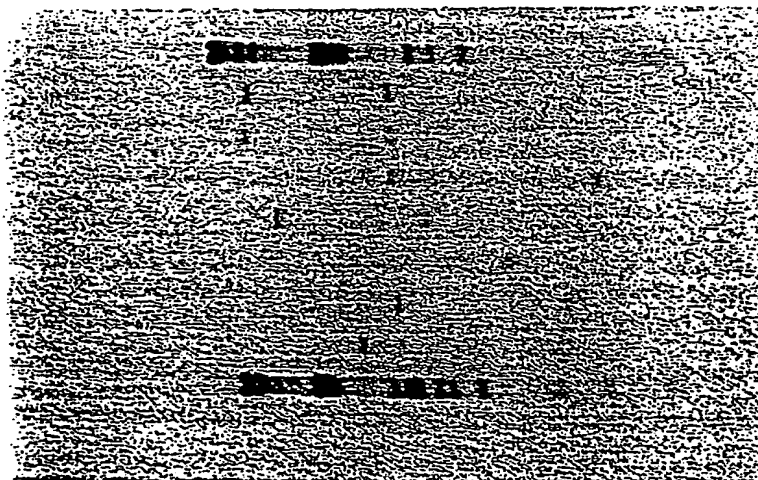
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FIG. 5

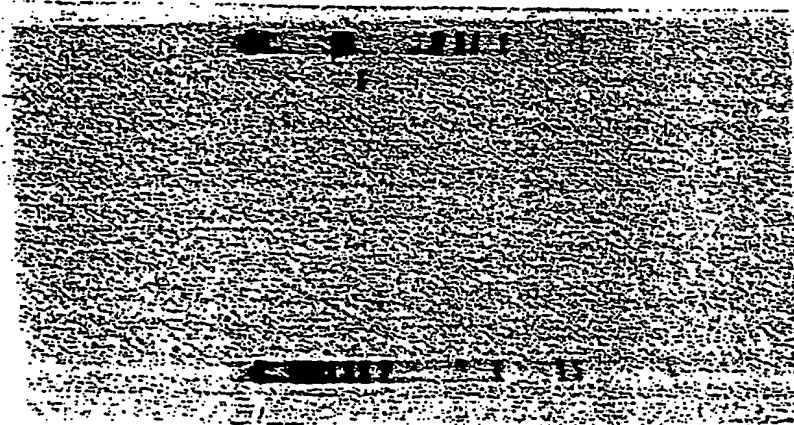
C



B



A



00150 6325450

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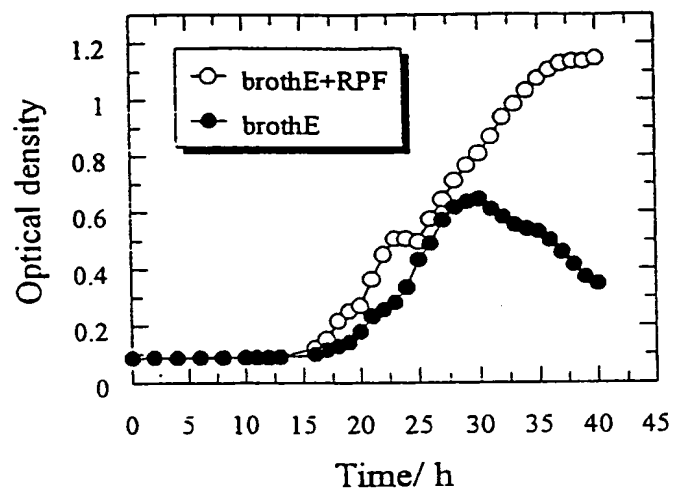
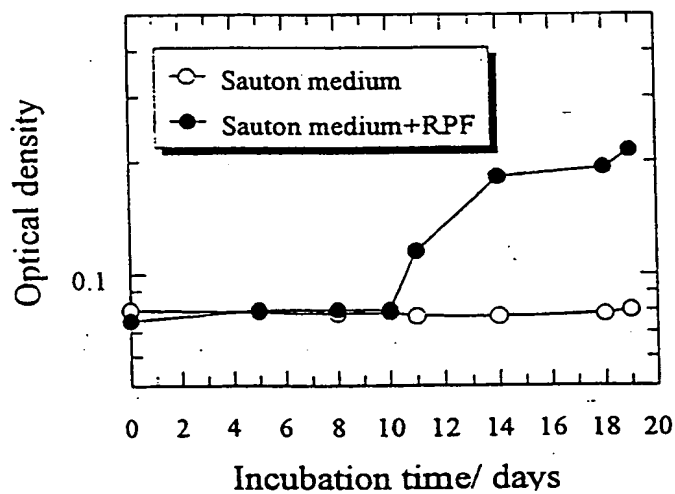
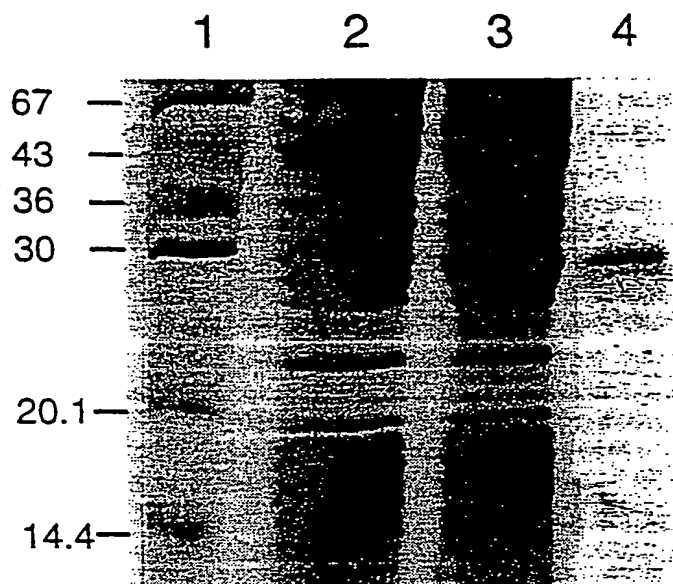
A**B**

FIG. 6

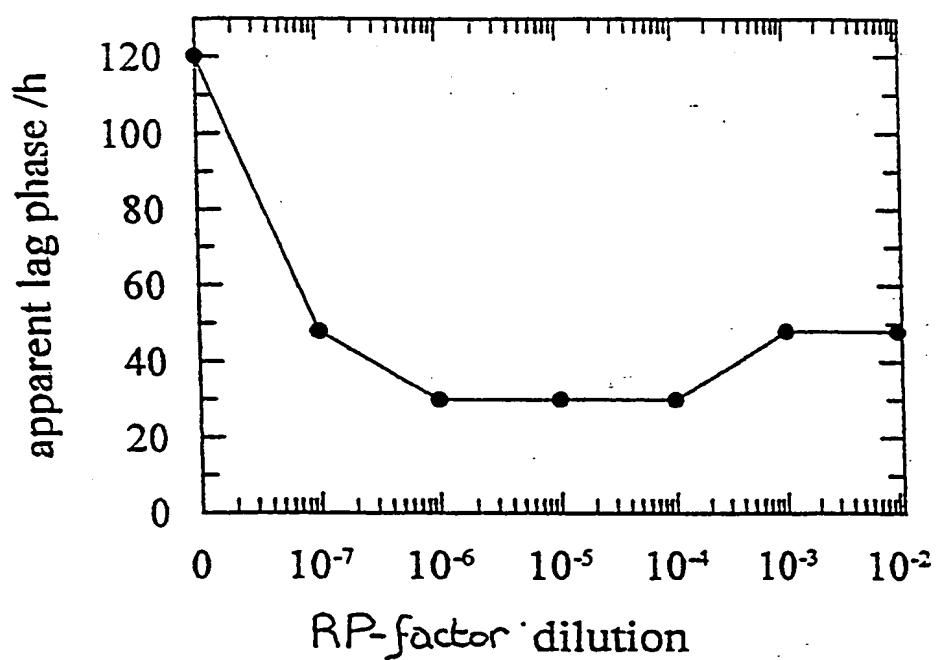
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FIG. 7

A



B



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C

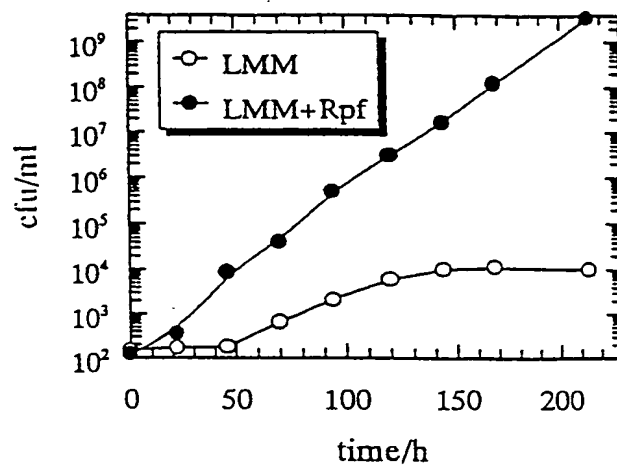


FIG. 7

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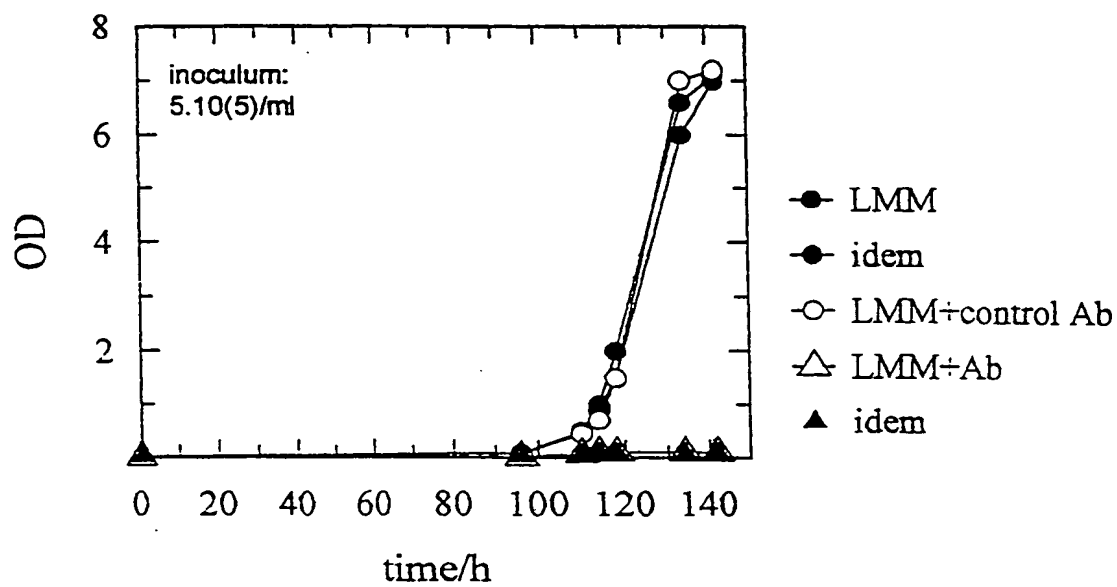
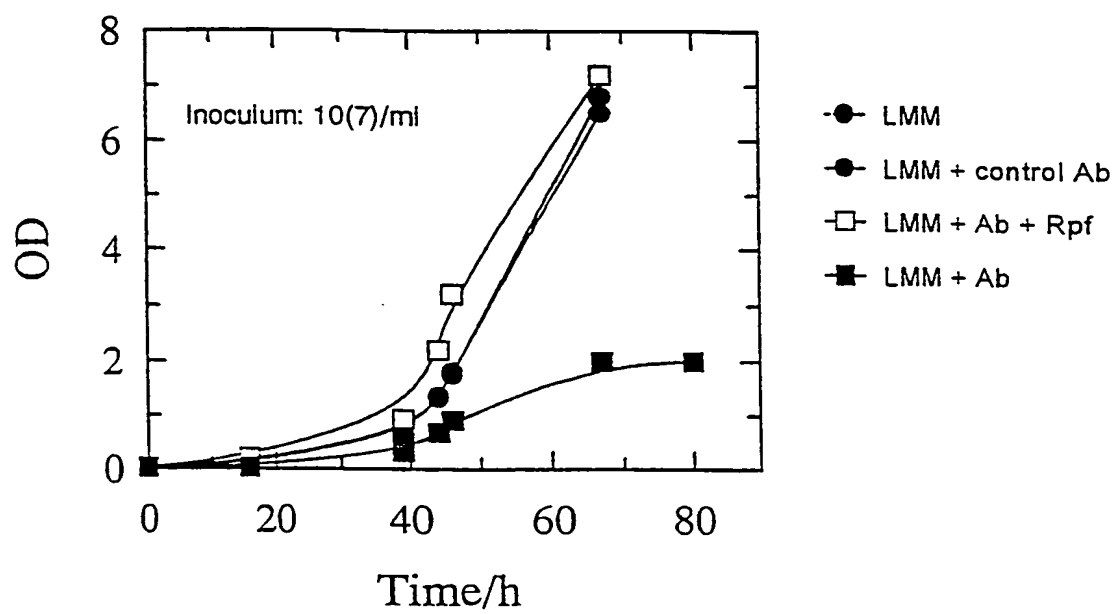


FIG. 8A

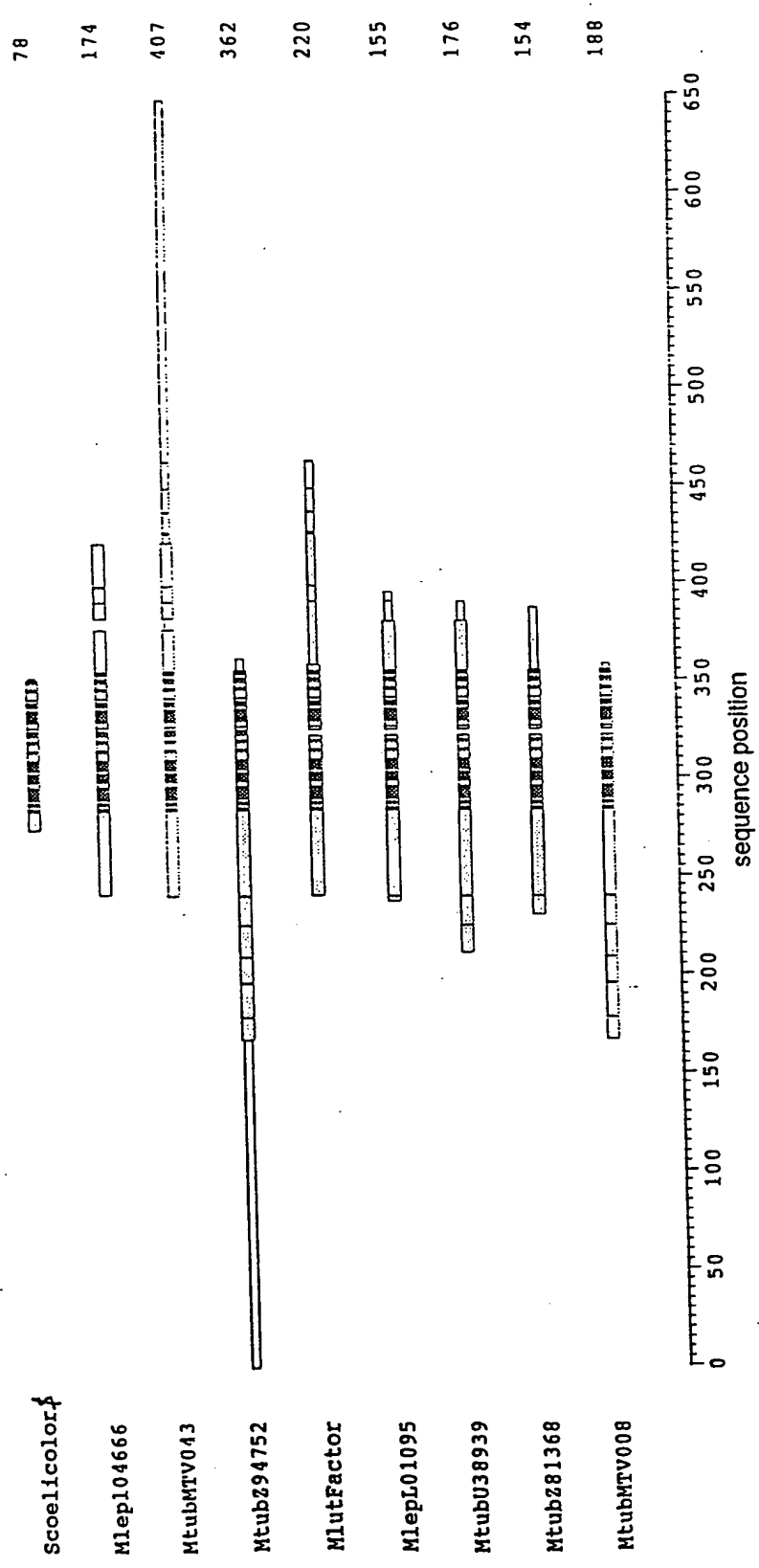
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FIG. 8 B



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FIG. 9A



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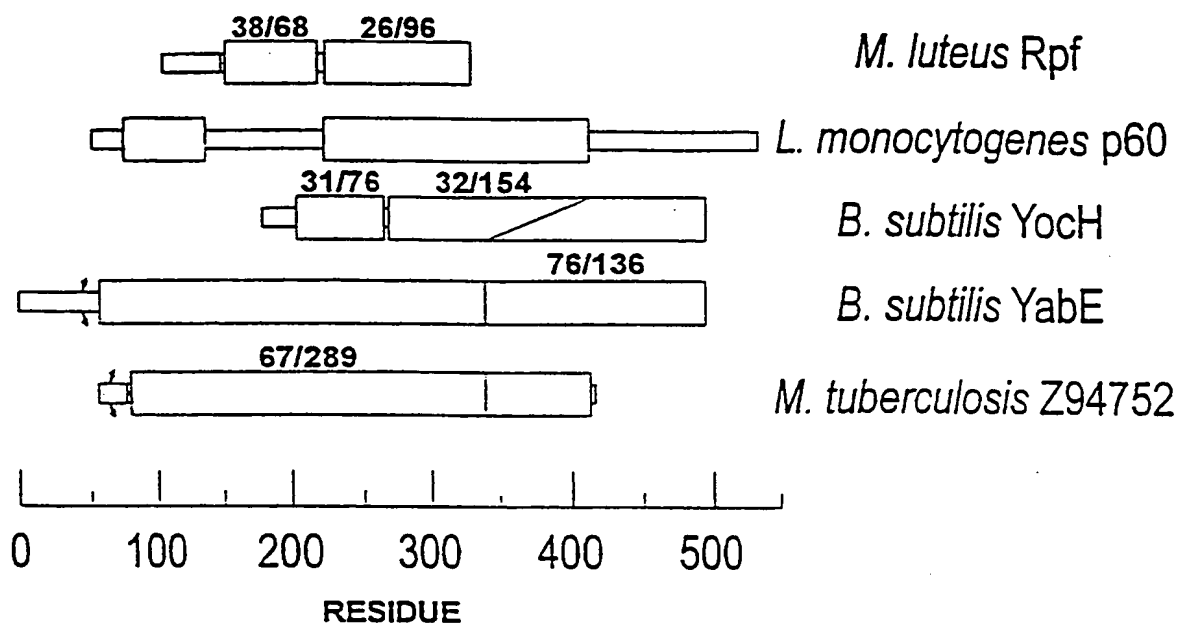


FIG. 9B

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